

## Claims

1. A wireless apparatus comprising: a mixer for converting a frequency of a received signal;

5           an analog filter for filtering the received signal whose frequency has been converted by said mixer;  
an analog-to-digital converter for converting the received analog signal filtered by said analog filter into a digital signal;

10          a digital filter having a band limiting characteristic which is inverse to that of said analog filter with respect to an ideal filter, for filtering the digital signal into which the received signal has been converted by said analog-to-digital converter; and

15          a digital filter control unit for disabling the filtering of the digital signal by said digital filter when determining from a receive level of the received signal that the filtering by said digital filter will increase distortion of the received signal.

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2. The wireless apparatus according to Claim 1, characterized in that said digital filter control unit includes a receive level detector for detecting the receive level of the received signal, a threshold storage unit for storing a receive 25 level threshold which said digital filter control unit uses when disabling the filtering of the digital signal by the digital filter, and a level comparison unit for enabling or disabling the filtering of the digital signal by said digital filter according to a comparison between the receive level detected 30 by said receive level detector and the receive level threshold

stored in said threshold storage unit.

3. The wireless apparatus according to Claim 2,  
characterized in that said threshold storage unit stores, as  
5 the receive level threshold which said digital filter control  
unit uses when disabling the filtering of the digital signal  
by said digital filter, a linear receive level high limit of  
the received signal which is influenced by an analog unit  
including the mixer, the analog filter, and the  
10 analog-to-digital converter.

4. The wireless apparatus according to Claim 2,  
characterized in that said threshold storage unit stores, as  
the receive level threshold which said digital filter control  
15 unit uses when disabling the filtering of the digital signal  
by said digital filter, a linear receive level low limit of the  
received signal which is influenced by an analog unit including  
the mixer, the analog filter, and the analog-to-digital  
converter.

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5. The wireless apparatus according to Claim 2,  
characterized in that said threshold storage unit stores, as  
the receive level threshold which said digital filter control  
unit uses when disabling the filtering of the digital signal  
25 by said digital filter, a linear receive level high limit and  
a linear receive level low limit of the received signal which  
is influenced by an analog unit including the mixer, the analog  
filter, and the analog-to-digital converter.

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6. The wireless apparatus according to Claim 1,

characterized in that said digital filter includes an output selecting unit for selecting and outputting the received signal which has been filtered by said digital filter or the received signal which has not been filtered by said digital filter  
5 according to enabling or disabling control of the filtering of the digital signal by said digital filter control unit.